CHAPTER 79 REVIEW FAR PART 121/135.411(A)(2) ENGINEERING CHANGE AUTHORIZATION

Section 1 Background

1. PTRS ACTIVITY CODES

A. Maintenance: 3346

B. Avionics*:* 5346

3. OBJECTIVE. This chapter provides guidance for evaluating an Engineering Change Authorization/Order (EA/EO).

5. GENERAL

A. An engineering change authorization/order provides an air carrier with a format for:

(1) Documenting major repairs and alterations to equipment the operator uses

(2) Recording FAA-approved data and procedures for accomplishing alterations and repairs to aircraft, propellers, powerplants, accessories, and components. If no previously approved data exists, the operator must obtain approval through an FAA engineering office, a Designated Engineering Representative (DER), or "FAA field approval."

NOTE: If an operator has SFAR 36 authorization, the operator may develop and approve its own data.

(3) Developing procedures and data used to comply with and provide verification of Airworthiness Directives

B. In evaluating an engineering change authorization, an inspector must approach this task in the same manner as reviewing/approving a major repair or alteration. This is done by using the procedures contained in Vol. 2, Ch. 1, Perform Field Approval of Major Repairs and Major Alterations.

NOTE: If an inspector is not completely familiar with equipment involved in the engineering change authorization, FAA Engineering should be contacted for assistance prior to issuing a field approval.

C. In reviewing an engineering change authorization, the inspector should be aware that the authorization serves not only as a maintenance record but also as a planning document for the operator. The authorization will normally contain material and personnel requirements, diagrams (blueprints, schematics, etc.), detailed procedures, and sign-offs. The inspector should ensure that all data is correct, complete, and does not conflict with existing authorizations or maintenance procedures.

D. If the engineering change authorization concerns new or modified equipment, maintenance procedures may have to be revised or developed. Coordination with the Principal Operations Inspector may be required to ensure that the operations manual and/or Approved Flight Manual (AFM) contain the revised or new procedures.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. *Prerequisites*

- Knowledge of the regulatory requirements of FAR Parts 121, 135, and SFAR 36
- Knowledge of the equipment involved in the engineering change authorization
- Successful completion of Airworthiness Inspector's Indoctrination Course for General Aviation and Air Carrier Inspections, or previous equivalent

- For engineering change authorizations requiring field approvals for major alterations, the inspector must be authorized by the Regional Flight Standards Division or Branch to grant field approvals

B. *Coordination.* This task requires coordination between the Principal Avionics Inspector, Principal Maintenance Inspector, Principal Operations Inspector, FAA Engineering, regional office, the manufacturer, and the operator.

3. REFERENCES, FORMS, AND JOB AIDS

A. *References*

- FAA-approved data (Maintenance/manufacturer's manuals, Supplemental Type Certificates, Airworthiness Directives, etc.)
- FAR Part 43
- Order 8300.10, Vol. 2, Ch. 1, Perform Field Approval of Major Repairs and Major Alterations

B. *Forms.* None.

C. *Job Aids.* None.

5. PROCEDURES

A. *Review the Operator's Submitted Engineering Change Authorization.* Ensure the following:

(1) Operator's classification (minor/major) is correct

(2) If classified as major, that data has previous FAA approval (if not, see Vol. 2, Ch. 1, Perform Field Approval of Major Repairs and Major Alterations)

(3) Diagrams and procedures are clear, precise, and complete

(4) Proper materials are listed and employed

(5) Individual maintenance and inspection task sign-offs are provided for and are adequate to ensure authorization compliance

(6) The authorization does not affect existing systems and/or procedures

(7) Maintenance/operating manuals and procedures are revised to include new or revised procedures that may be required as a result of the authorization

B. *Analyze Findings.* If discrepancies are noted, contact the operator and request corrective action.

7. TASK OUTCOMES

A. *File PTRS Transmittal Form*

B. *Successful completion of this task will result in the following:*

(a) For a minor engineering change authorization, discard the office copy of the authorization

(b) For a major engineering change authorization with previously approved or field approved data, file the authorization in the Certificate Holding District Office's (CHDO's) operator file

(c) For a major engineering change authorization without previously approved data, accomplish one of the following:

- Field approve the authorization

NOTE: Inspectors are not required to give a field approval. This is done at the inspector's discretion. Knowledge of the equipment involved should be taken into consideration.

- Send the authorization to FAA Engineering for further evaluation and/or approval

- Return the authorization to the operator to obtain the necessary approvals through designated engineering representatives, etc.

- When data is approved, e.g., field or engineering, inform the operator of the findings and return the signed original to the operator

C. *Document Task.* File all supporting paperwork in the operator's office file.

9. FUTURE ACTIVITIES. Normal surveillance.